EXECUTIVE SUMMARY

The Upper East Coast region is expected to experience substantial growth between now and the year 2020. Population is expected to increase by almost 80 percent from 1990 levels, with expansion occurring mostly in the coastal areas. Likewise, agriculture - primarily citrus located in the western portion of the region - is expected to remain a cornerstone of the region's economy. Meeting water demands while addressing the water needs of the environment makes development of proactive water supply strategies imperative to the economic and environmental sustainability of the area. It is the intent of the legislature to promote the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems. Implementation of the Upper East Coast Water Supply Plan should avert potential problems if the water resources are managed properly.

This planning document is the product of a public process, which relied heavily on an advisory committee of diverse membership representing the interests and concerns of the region. The planning effort provided a forum to weigh projected water demands of urban areas, agriculture and the environment against available supplies.

Overall, it was concluded that historically used sources of water, especially the Surficial Aquifer System in the coastal portions of the region, are not sufficient to meet projected water demands during a 1-in-10 drought condition. However, with appropriate management and diversification of water supply sources, there is sufficient water to meet the needs of the region. Analyses indicated that the traditional source for urban water needs, the surficial aquifer, has limited potential for expansion due to potential impacts on wetland systems, and increased vulnerability to saltwater intrusion in the vicinity of public water supply wellfields. In western portions of the region where surface water from the regional canal system is heavily relied upon for agricultural needs, analysis showed that existing surface water supplies are inadequate to meet existing as well as future demands. Surface water availability is essentially a function of climate and storage; there are excess amounts during the summer wet season, and insufficient supplies during dry winter months. This problem of timing is particularly illustrated by the impacts of freshwater discharges to the St. Lucie Estuary and Indian River Lagoon. Excessive discharges decrease the salinity of the estuary to essentially freshwater, resulting in the loss of historic seagrass and oyster bed systems. Insufficient freshwater discharges increase the salinity to essentially saltwater resulting in negative environmental impacts.

Increasing demands and the constraints summarized above point to a need to redirect excess surface water to areas where it can be used or stored, and to look

toward new water sources for public water supply. The Floridan aquifer appears to be the most promising source for future urban potable water needs. Preliminary evaluations indicate that the Floridan aquifer has sufficient supplies to meet both existing and future urban and agricultural demands. Some urban utilities have already begun transitioning to the Floridan aquifer through desalination, which remove salts from saline water. The Floridan aquifer is also used as a primary source for some agricultural operations and as a backup source for others. Little is known, however, about long-term water quality impacts of sustained withdrawals from this aquifer. This makes water quality monitoring of the Floridan aquifer a research priority in this region.

Aquifer Storage and Recovery (ASR) technology also shows great promise both for treated and untreated water by providing a storage option during periods of water availability. Other strategies, such as targeting particularly vulnerable areas for conservation programs and greater development of reclaimed water use, are important water source options.

Local governments and users will play a key role in making these strategies a success, through adoption of conservation ordinances, homeowner awareness programs, land use decisions, and development of water source options by local utilities and users. Based on the analysis, it appears most of the water supply issues in the planning area can be addressed at the local level with appropriate diversification and management. One exception is addressing the needs of the estuaries. It is likely that ongoing studies will result in future water resource development capital projects.

Finally, other planning efforts are currently underway and are continuing to address some specific goals of this plan. For example, the Indian River Lagoon Restoration Feasibility Study will be evaluating many options for addressing specific management of freshwater inflows to the St. Lucie Estuary and Indian River Lagoon. The strategies outlined in this plan, in partnership with other efforts, should ensure that water in this region is prudently managed and available to meet the anticipated demands of the region.